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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,599	03/29/2004	Yong-Chan Keh	5000-1-544	2700
33942 7590 01/31/2007 CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			EXAMINER KIANNI, KAVEH C	
			ART UNIT 2883	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS			MAIL DATE 01/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/811,599	KEH ET AL.	
	Examiner	Art Unit	
	Kianni C. Kaveh	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,9-12,15,16 and 18 is/are rejected.
- 7) ☒ Claim(s) 4-8,13,14,17 and 19-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.



Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. <u>5/</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 1 is objected to because of the following informalities: in the last line of the claim the word 'aligned a row' has a missing is missing 'in' before 'a row'. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 9-12, 15-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. (US 20030165167).

Regarding claims 1, 3, 10-11, 16 and 18, Ichikawa et al. teaches a TO-can type optical module and its method of arranging (shown in at least figures 1-3 and 12) comprising: providing a stem 100; arranging a sub-mount 160 in the stem 100 substantially perpendicular to an upper surface of the stem; a laser diode (LD) 131/132 mounted/arranged in the sub-mount 160; a photodiode (PD) 140 mounted substantially parallel to the LD and said PD mounted on the submount (shown in fig. 1, item 140 is parallel to 131 and is located on the submount 160), said PD being arranged for detecting light emitted from a back face of the LD 131 converting light emitted from the LD 131 to current; and a plurality of leads 121-124 extended through the stem, said leads electrically being connected to the sub-mount 160 and said leads aligned in a row (shown in at least fig. 1 and/or 2, items two of the leads as shown are aligned in a row and also in fig. 2, items 151 and 152 are aligned in a row; note also that such arrangement is extremely conventional which also shown in Fig. 2 of this application as Prior Art).

However, in above embodiment Ichikawa does not specifically teach (A) wherein the above photodiode having an inclined light incident surface, and a bias-tee arranged in the sub-mount with the LD, (B) said bias-tee superposing an RF signal onto the DC current of the LD, (C) wherein the sub-mount is formed of a ceramic material and/or wherein the ceramic material comprises AlN. The limitation (A) more specifically taught by Chikawa in another embodiment (see at least fig. 12-14. item inclined surface photodiode 240), in which it would have been obvious to a person of ordinary skill in the art when the invention was made to combine different embodiments of Chikawa in

order to produce an optical module having said limitation for purpose of simplifying the module optical coupling. And regarding limitations (B) and (C), although heat dissipater element 202/102 would function as a bias-Tee/RF suppressor; nevertheless, it would have been obvious to a person of ordinary skill in the art when the invention was made to modify Chikawa's module/sub-mount as matter of suitability and design options to including extremely conventional a bias-Tee (which is optionally/externally interfaced by the applicant stated in the specification) and or Ceramic material with AlN (see a few examples of listed prior art below) since such configuration would provide simplified fabrication process, reliability without damaging the stem or other module elements (see parag. 0021-0022).

Regarding claims 2, 9, 12, and 15, Ichikawa further teaches wherein the sub-mount 160 is arranged substantially perpendicular to an upper surface of the stem 100; wherein the LD includes a p-type electrode bonded by having its p-side facing up to the sub-mount (see parag. 0032); wherein the LD and the PD are die-bonded onto the sub-mount by a solder pattern (see at least parag. 0005); wherein the plurality of leads are arranged in line (shown in figure 1-3 and 12, items leads in line).

- Claims 4-8 and 13-14, 17 and 19-23 are objected, as stated in last office action, to as being dependent upon a rejected base claim, but would be allowable if their respective base claim is no longer rejected under 112 2nd Parag. and rewritten in

Art Unit: 2883

independent form including all of the limitations of the base claim and any intervening claims.

Previously Citation of Relevant Prior Art Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

Ito et al. 6410904 teaches at least claim 1

Kurabayashi et al. at least claim 1

Lowery et al. 5509022 teaches Bias-Tee superposing an RF signal onto the DC current of the LD

Mazed 20020028390 teaches Bias-Tee superposing an RF signal onto the DC current of the LD

Kitaoka et al. 5835650 teaches ceramic material with AlN in a sub-mount/substrate

US 6940091 B2 Funada; Tomoyuki et al. teaches ceramic material with AlN in a sub-mount

US 6700911 B2 Kohashi; Ikuo et al. teaches ceramic material with AlN in a sub-mount

Funada et al. 2004/0037334 teaches ceramic material with AlN in a sub-mount/substrate

Verdiell 20020034834 teaches ceramic material with AlN in a sub-mount/substrate

Aruga et al. 20050067698 teaches ceramic material with AlN in a sub-mount/substrate

Masui et al. 5557166 teaches relevant limitations

These references are cited herein to show the relevance of the apparatus/methods taught within these references as prior art.

Response to Arguments and Amendment

Applicant's argument filed on 10/5/06 and 11/20/06 have been fully considered but they are not persuasive.

Regarding applicant's arguments that Ichikawa does not teach plurality of leads That are electrically connected to the sub-mount are aligned in a row, the examiner

Art Unit: 2883

responds that Ichikawa teaches wherein plurality (at least two) of leads electrically being connected to the sub-mount 160 and said leads aligned in a row (shown in at least fig. 1 and/or 2, items two of the protruding leads as shown in fig. 1 Are aligned in a row and also in fig. 2, items 151 and 152 are aligned in a row; note also that such arrangement is extremely conventional which also shown in Fig. 2 of this application as Prior Art).

THIS ACTION IS MADE FINAL

This action in response to applicant's amendment made FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kianni C. Kaveh whose telephone number is 571-272-2417. The examiner can normally be reached on 9:30-19:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K. Cyrus Kianni
Primary Patent Examiner
Group Art Unit 2883

January 23, 2007

**KAVEH KIANNI
PRIMARY EXAMINER**

